

SEQUENCE LISTING

<110> White, Carl W.  
<120> Product and Process for Liquefaction of Mucus or Sputum  
<130> 2879-98  
<150> 60/409,960  
<151> 2002-09-10  
<150> 60/462,082  
<151> 2003-04-11  
<160> 15  
<170> PatentIn version 3.1  
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<400> 3

Trp Cys Gly Pro Cys Lys  
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<210> 4

<211> 109

<212> PRT

<213> Pseudomonas syringae

<400> 4

Met Ser Asn Asp Leu Ile Lys His Val Thr Asp Ala Ser Phe Glu Ala  
1 5 10 15

Asp Val Leu Lys Ala Asp Gly Ala Val Leu Val Asp Tyr Trp Ala Glu  
20 25 30

Trp Cys Gly Pro Cys Lys Met Ile Ala Pro Val Leu Asp Glu Ile Ala  
35 40 45

Thr Thr Tyr Ala Gly Lys Leu Thr Ile Ala Lys Leu Asn Ile Asp Glu  
50 55 60

Asn Gln Glu Thr Pro Ala Lys His Gly Val Arg Gly Ile Pro Thr Leu  
65 70 75 80

Met Leu Phe Lys Asn Gly Asn Val Glu Ala Thr Lys Val Gly Ala Leu  
85 90 95

Ser Lys Ser Gln Leu Ala Ala Phe Leu Asp Ala Asn Ile  
100 105

<210> 5

<211> 104

<212> PRT

<213> Porphyromonas gingivalis

<400> 5

Met Ala Leu Gln Ile Thr Asp Ala Thr Phe Asp Gly Leu Val Ala Glu  
1 5 10 15

Gly Lys Pro Met Val Val Asp Phe Trp Ala Thr Trp Cys Gly Pro Cys  
20 25 30

Arg Met Val Gly Pro Ile Ile Asp Glu Leu Ala Ala Glu Tyr Glu Gly  
35 40 45

Arg Ala Ile Ile Gly Lys Val Asp Val Asp Ala Asn Thr Glu Leu Pro  
50 55 60

Met Lys Tyr Gly Val Arg Asn Ile Pro Thr Ile Leu Phe Ile Lys Asn  
65 70 75 80

Gly Glu Val Val Lys Lys Leu Val Gly Ala Gln Ser Lys Asp Val Phe  
85 90 95

Lys Lys Glu Leu Asp Ala Leu Phe  
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<210> 6  
<211> 103  
<212> PRT  
<213> *Listeria monocytogenes*

<400> 6

Met Val Lys Glu Ile Thr Asp Ala Thr Phe Glu Gln Glu Thr Ser Glu  
1 5 10 15

Gly Leu Val Leu Thr Asp Phe Trp Ala Thr Trp Cys Gly Pro Cys Arg  
20 25 30

Met Val Ala Pro Val Leu Glu Glu Ile Gln Glu Glu Arg Gly Glu Ala  
35 40 45

Leu Lys Ile Val Lys Met Asp Val Asp Glu Asn Pro Glu Thr Pro Gly  
50 55 60

Ser Phe Gly Val Met Ser Ile Pro Thr Leu Leu Ile Lys Lys Asp Gly  
65 70 75 80

Glu Val Val Glu Thr Ile Ile Gly Tyr Arg Pro Lys Glu Glu Leu Asp  
85 90 95

Glu Val Ile Asn Lys Tyr Val  
100

<210> 7  
<211> 103  
<212> PRT  
<213> *Saccharomyces cerevisiae*

<400> 7

Met Val Thr Gln Phe Lys Thr Ala Ser Glu Phe Asp Ser Ala Ile Ala  
1 5 10 15

Gln Asp Lys Leu Val Val Val Asp Phe Tyr Ala Thr Trp Cys Gly Pro  
20 25 30

Cys Lys Met Ile Ala Pro Met Ile Glu Lys Phe Ser Glu Gln Tyr Pro  
35 40 45

Gln Ala Asp Phe Tyr Lys Leu Asp Val Asp Glu Leu Gly Asp Val Ala  
50 55 60

Gln Lys Asn Glu Val Ser Ala Met Pro Thr Leu Leu Leu Phe Lys Asn  
65 70 75 80

Gly Lys Glu Val Ala Lys Val Val Gly Ala Asn Pro Ala Ala Ile Lys  
85 90 95

Gln Ala Ile Ala Ala Asn Ala  
100

<210> 8  
<211> 105  
<212> PRT  
<213> Gallus gallus

<400> 8

Met Val Lys Ser Val Gly Asn Leu Ala Asp Phe Glu Ala Glu Leu Lys  
1 5 10 15

Ala Ala Gly Glu Lys Leu Val Val Val Asp Phe Ser Ala Thr Trp Cys  
20 25 30

Gly Pro Cys Lys Met Ile Lys Pro Phe Phe His Ser Leu Cys Asp Lys  
35 40 45

Phe Gly Asp Val Val Phe Ile Glu Ile Asp Val Asp Asp Ala Gln Asp  
50 55 60

Val Ala Thr His Cys Asp Val Lys Cys Met Pro Thr Phe Gln Phe Tyr  
65 70 75 80

Lys Asn Gly Lys Lys Val Gln Glu Phe Ser Gly Ala Asn Lys Glu Lys  
85 90 95

Leu Glu Glu Thr Ile Lys Ser Leu Val  
 100 105

<210> 9  
 <211> 105  
 <212> PRT  
 <213> Mus musculus

<400> 9

Met Val Lys Leu Ile Glu Ser Lys Glu Ala Phe Gln Glu Ala Leu Ala  
 1 5 10 15

Ala Ala Gly Asp Lys Leu Val Val Val Asp Phe Ser Ala Thr Trp Cys  
 20 25 30

Gly Pro Cys Lys Met Ile Lys Pro Phe Phe His Ser Leu Cys Asp Lys  
 35 40 45

Tyr Ser Asn Val Val Phe Leu Glu Val Asp Val Asp Asp Cys Gln Asp  
 50 55 60

Val Ala Ala Asp Cys Glu Val Lys Cys Met Pro Thr Phe Gln Phe Tyr  
 65 70 75 80

Lys Lys Gly Gln Lys Val Gly Glu Phe Ser Gly Ala Asn Lys Glu Lys  
 85 90 95

Leu Glu Ala Ser Ile Thr Glu Tyr Ala  
 100 105

<210> 10  
 <211> 105  
 <212> PRT  
 <213> Rattus norvegicus

<400> 10

Met Val Lys Leu Ile Glu Ser Lys Glu Ala Phe Gln Glu Ala Leu Ala  
 1 5 10 15

Ala Ala Gly Asp Lys Leu Val Val Val Asp Phe Ser Ala Thr Trp Cys  
 20 25 30

Gly Pro Cys Lys Met Ile Lys Pro Phe Phe His Ser Leu Cys Asp Lys  
 35 40 45

Tyr Ser Asn Val Val Phe Leu Glu Val Asp Val Asp Asp Cys Gln Asp  
50 55 60

Val Ala Ala Asp Cys Glu Val Lys Cys Met Pro Thr Phe Gln Phe Tyr  
65 70 75 80

Lys Lys Gly Gln Lys Val Gly Glu Phe Ser Gly Ala Asn Lys Glu Lys  
85 90 95

Leu Glu Ala Thr Ile Thr Glu Phe Ala  
100 105

<210> 11  
<211> 105  
<212> PRT  
<213> Bos taurus

<400> 11

Met Val Lys Gln Ile Glu Ser Lys Tyr Ala Phe Gln Glu Ala Leu Asn  
1 5 10 15

Ser Ala Gly Glu Lys Leu Val Val Val Asp Phe Ser Ala Thr Trp Cys  
20 25 30

Gly Pro Cys Lys Met Ile Lys Pro Phe Phe His Ser Leu Ser Glu Lys  
35 40 45

Tyr Ser Asn Val Val Phe Leu Glu Val Asp Val Asp Asp Cys Gln Asp  
50 55 60

Val Ala Ala Glu Cys Glu Val Lys Cys Met Pro Thr Phe Gln Phe Phe  
65 70 75 80

Lys Lys Gly Gln Lys Val Gly Glu Phe Ser Gly Ala Asn Lys Glu Lys  
85 90 95

Leu Glu Ala Thr Ile Asn Glu Leu Ile  
100 105

<210> 12  
<211> 105  
<212> PRT  
<213> Homo sapiens

<400> 12

Met Val Lys Gln Ile Glu Ser Lys Thr Ala Phe Gln Glu Ala Leu Asp

1 5 10 15

Ala Ala Gly Asp Lys Leu Val Val Val Asp Phe Ser Ala Thr Trp Cys  
20 25 30

Gly Pro Cys Lys Met Ile Lys Pro Phe Phe His Ser Leu Ser Glu Lys  
35 40 45

Tyr Ser Asn Val Ile Phe Leu Glu Val Asp Val Asp Asp Cys Gln Asp  
50 55 60

Val Ala Ser Glu Cys Glu Val Lys Cys Met Pro Thr Phe Gln Phe Phe  
65 70 75 80

Lys Lys Gly Gln Lys Val Gly Glu Phe Ser Gly Ala Asn Lys Glu Lys  
85 90 95

Leu Glu Ala Thr Ile Asn Glu Leu Val  
100 105

<210> 13  
<211> 134  
<212> PRT  
<213> Arabidopsis thaliana

<400> 13

Met Gly Gly Ala Leu Ser Thr Val Phe Gly Ser Gly Glu Asp Ala Ala  
1 5 10 15

Ala Ala Gly Thr Glu Ser Ser Glu Pro Ser Arg Val Leu Lys Phe Ser  
20 25 30

Ser Ser Ala Arg Trp Gln Leu His Phe Asn Glu Ile Lys Glu Ser Asn  
35 40 45

Lys Leu Leu Val Val Asp Phe Ser Ala Ser Trp Cys Gly Pro Cys Arg  
50 55 60

Met Ile Glu Pro Ala Ile His Ala Met Ala Asp Lys Phe Asn Asp Val  
65 70 75 80

Asp Phe Val Lys Leu Asp Val Asp Glu Leu Pro Asp Val Ala Lys Glu  
85 90 95

Phe Asn Val Thr Ala Met Pro Thr Phe Val Leu Val Lys Arg Gly Lys

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100              105              110

Glu Ile Glu Arg Ile Ile Gly Ala Lys Lys Asp Glu Leu Glu Lys Lys
    115              120              125

Val Ser Lys Leu Arg Ala
    130

<210>  14
<211>  167
<212>  PRT
<213>  Zea mays

<400>  14

Met Ala Met Glu Thr Cys Phe Arg Ala Trp Ala Leu His Ala Pro Ala
  1              5              10              15

Gly Ser Lys Asp Arg Leu Leu Val Gly Asn Leu Val Leu Pro Ser Lys
    20              25              30

Arg Ala Leu Ala Pro Leu Ser Val Gly Arg Val Ala Thr Arg Arg Pro
    35              40              45

Arg His Val Cys Gln Ser Lys Asn Ala Val Asp Glu Val Val Val Ala
    50              55              60

Asp Glu Lys Asn Trp Asp Gly Leu Val Met Ala Cys Glu Thr Pro Val
    65              70              75              80

Leu Val Glu Phe Trp Ala Pro Trp Cys Gly Pro Cys Arg Met Ile Ala
    85              90              95

Pro Val Ile Asp Glu Leu Ala Lys Asp Tyr Ala Gly Lys Ile Thr Cys
    100             105             110

Cys Lys Val Asn Thr Asp Asp Ser Pro Asn Val Ala Ser Thr Tyr Gly
    115             120             125

Ile Arg Ser Ile Pro Thr Val Leu Ile Phe Lys Gly Gly Glu Lys Lys
    130             135             140

Glu Ser Val Ile Gly Ala Val Pro Lys Ser Thr Leu Thr Thr Leu Ile
    145             150             155             160

Asp Lys Tyr Ile Gly Ser Ser

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165

<210> 15  
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 <212> PRT  
 <213> Oryza sativa

<400> 15

Met Ala Leu Glu Thr Cys Phe Arg Ala Trp Ala Thr Leu His Ala Pro  
 1 5 10 15

Gln Pro Pro Ser Ser Gly Gly Ser Arg Asp Arg Leu Leu Leu Ser Gly  
 20 25 30

Ala Gly Ser Ser Gln Ser Lys Pro Arg Leu Ser Val Ala Ser Pro Ser  
 35 40 45

Pro Leu Arg Pro Ala Ser Arg Phe Ala Cys Gln Cys Ser Asn Val Val  
 50 55 60

Asp Glu Val Val Val Ala Asp Glu Lys Asn Trp Asp Ser Met Val Leu  
 65 70 75 80

Gly Ser Glu Ala Pro Val Leu Val Glu Phe Trp Ala Pro Trp Cys Gly  
 85 90 95

Pro Cys Arg Met Ile Ala Pro Val Ile Asp Glu Leu Ala Lys Glu Tyr  
 100 105 110

Val Gly Lys Ile Lys Cys Cys Lys Val Asn Thr Asp Asp Ser Pro Asn  
 115 120 125

Ile Ala Thr Asn Tyr Gly Ile Arg Ser Ile Pro Thr Val Leu Met Phe  
 130 135 140

Lys Asn Gly Glu Lys Lys Glu Ser Val Ile Gly Ala Val Pro Lys Thr  
 145 150 155 160

Thr Leu Ala Thr Ile Ile Asp Lys Tyr Val Ser Ser  
 165 170